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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
10/520,730	05/01/2006	Lydie Bougueleret	DV 4-33620A	9363

75074 7590 12/23/2008

NOVARTIS INSTITUTES FOR BIOMEDICAL RESEARCH, INC.
400 TECHNOLOGY SQUARE
CAMBRIDGE, MA 02139

EXAMINER	
BASKAR, PADMAVATHI	
ART UNIT	PAPER NUMBER
1645	
MAIL DATE	DELIVERY MODE
12/23/2008	PAPER

Please find below and/or attached an Office communication concerning this application or proceeding.

The time period for reply, if any, is set in the attached communication.

Office Action Summary	Application No.	Applicant(s)	
	10/520,730	BOUGUELERET ET AL.	
	Examiner	Art Unit	
	Padma V. Baskar	1645	

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE *3* MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

1)☒ Responsive to communication(s) filed on *06 October 2008*.

2a)☐ This action is **FINAL**. 2b)☒ This action is non-final.

3)☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

4)☒ Claim(s) *1-13* is/are pending in the application.

4a) Of the above claim(s) *9-13* is/are withdrawn from consideration.

5)☐ Claim(s) _____ is/are allowed.

6)☒ Claim(s) *1-8* is/are rejected.

7)☐ Claim(s) _____ is/are objected to.

8)☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

9)☐ The specification is objected to by the Examiner.

10)☐ The drawing(s) filed on _____ is/are: a)☐ accepted or b)☐ objected to by the Examiner.

Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).

Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).

11)☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

12)☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).

a)☐ All b)☐ Some * c)☐ None of:

1.☐ Certified copies of the priority documents have been received.

2.☐ Certified copies of the priority documents have been received in Application No. _____.

3.☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

* See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

1) ☒ Notice of References Cited (PTO-892)
2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)
3) ☒ Information Disclosure Statement(s) (PTO/SB/08) Paper No(s)/Mail Date *4/26/05* .
4) ☐ Interview Summary (PTO-413) Paper No(s)/Mail Date. _____ .
5) ☐ Notice of Informal Patent Application
6) ☐ Other: _____.

DETAILED ACTION

Response to Election/Restriction

1. Applicant's response to restriction filed on 10/6/08 is acknowledged. Applicants elected Group 1, claims 1 (in part) and 2-7, drawn to a method of screening for and/or diagnosing a cardiovascular disorder in a subject, comprising the steps of: detecting and/or quantifying the level of a polypeptide SEQ ID NO:2 and isolated polypeptide SEQ ID NO:2 with traverse.

The traversal is on the ground(s) that SEQ ID NOs 2 and 4 are similar (well within the 75% sequence identity and a search for one could easily include the other, and would not constitute an unduly search burden on the part of the Examiner. Applicants also hereby respectfully request a rejoinder of Groups 3-21, since the screening and diagnosis methods of Group I directly implicate CPP polypeptides and anti-CPP antibodies,

This is not found persuasive because the examiner made it clear on the record in the previous Office action mailed on 5/6/08 that the disclosed sequences are patentably distinct and structurally different since each SEQ.ID.NO is distinct and given a specific sequence identification . The search for each of the above inventions is not co-extensive particularly with regard to the literature search. A reference, which would anticipate the invention of one SEQ.ID.NO, would not necessarily anticipate or make obvious any of the other SEQ.ID.NO. Moreover, as to the question of burden of search, classification of subject matter is merely one indication of the burdensome nature of the search involved. The literature search, particularly relevant in this art, is not co-extensive and is much more important in evaluating the burden of search. Burden in examining materially different groups having materially different issues also exist.

Regarding the rejoinder of groups 3-21, the inventions as described in the previous office action are drawn to different CPP products and different methods of using different products namely antibodies etc that lack a common structure. Therefore Group 1, claims 1 (in part) and 2-7 will be examined in this application. The requirement is still deemed proper and is therefore made FINAL.

Status of claims

2. Claims 1-13 are pending

Claims 1-8 with respect to SEQ.ID.NO:2 are under examination. The examiner included claim 8 as it is drawn to Group I invention. Applicant is requested to amend the claims to recite the elected SEQ.ID.NO:2

Claims 9-13 are withdrawn from further consideration pursuant to 37 CFR 1.142(b), as being drawn to a nonelected invention there being no allowable generic or linking claim. Applicant timely traversed the restriction (election) requirement in the reply filed on 10/6/08.

Information Disclosure Statement

3. Information Disclosure Statement filed on 4/26/05 has been entered and reviewed and a signed copy of the same is attached to this action.

Claim Rejections - 35 USC § 112, second paragraph

4. The following is a quotation of the second paragraph of 35 U.S.C. 112:

> The specification shall conclude with one or more claims particularly pointing out and distinctly claiming the subject matter which the applicant regards as his invention.

5. Claims 1-6 are rejected under 35 U.S.C. 112, second paragraph, as being indefinite for failing to particularly point out and distinctly claim the subject matter which applicant regards as the invention.

Claims 1 and 2 recite a method of screening or predicting a cardiovascular disorder in a subject comprising the steps of: i) detecting and/or quantifying the level of a polypeptide in a biological sample from said subject—". However, there is no active step which indicates that the sample is contacted with a substance such that the polypeptide is detected in the sample. Therefore, claims are rejected for missing active step.

Claim Rejections - 35 USC § 112, first paragraph

6. The following is a quotation of the second paragraph of 35 U.S.C. 112: The following is a quotation of the first paragraph of 35 U.S.C. 112:

> The specification shall contain a written description of the invention, and of the manner and process of making and using it, in such full, clear, concise, and exact terms as to enable any person skilled in the art to which it pertains, or with which it is most nearly connected, to make and use the same and shall set forth the best mode contemplated by the inventor of carrying out his invention.

7. Claims 1-6 are rejected under 35 U.S.C. 112, first paragraph, as failing to comply with the written description requirement. The claims contain subject matter, which was not described in the specification in such a way as to reasonably convey to one skilled in the relevant art that the inventor, at the time the application was filed, had possession of the claimed invention.

The Written Description Guidelines for examination of patent applications indicates, "the written description requirement for a claimed genus may be satisfied through sufficient description of a representative number of species by actual reduction to practice, or by disclosure of relevant, identifying characteristics, i.e., structure or other physical characteristics and/or other chemical properties, by functional characteristics coupled with a known or disclosed correlation between function and structure, or by a combination of such identifying characteristics, sufficient to show applicant was in possession of the claimed genus." (see MPEP 2163).

The claims are drawn to a method of screening for and/or diagnosis of or predicting a cardiovascular disorder in a subject, comprising the steps of: i)
detecting and/or quantifying the level of a polypeptide in a biological sample from said subject, wherein the polypeptide is selected from:
a. a polypeptide comprising the amino acid sequence of SEQ ID NO:2
b. a variant, with at least 75% sequence identity, having one or more amino acid substitutions, deletions or insertions relative to the amino acid sequence of SEQ ID NO:2 and
c. a fragment of a polypeptide as defined in i) or ii) above which is a least seven amino acids long; and
ii) comparing said level to that of a control sample, wherein an increase in said level relative to that of the control is indicative of a cardiovascular disorder , wherein said cardiovascular disorder is Coronary Artery Disease (CAD). Thus, the scope of the claims includes a genus variants/fragments of SEQ.ID.NO:1 and the genus is highly variant, inclusive to numerous structurally different variants/fragments because a significant number of structural differences between genus members is permitted. The specification teaches only isolated protein comprising the amino acid sequence SEQ.ID.NO:2. The specification does not place any structure, chemical or functional limitations of "variants/fragments". The recitation of

"variants/fragments" does not convey a common structure or function and is not so defined in the specification. The specification and the claim do not provide any guidance "antigenic fragments". "A patentee will not be deemed to have invented species sufficient to constitute the genus by virtue of having disclosed a single species when … the evidence indicates ordinary artisans could not predict the operability in the invention of any species other than the one disclosed." *In re Curtis*, 354 F.3d 1347, 1358, 69 USPQ2d 1274, 1282 (Fed. Cir. 2004). For inventions in an unpredictable art, adequate written description of a genus which embraces widely variant species cannot be achieved by disclosing only one species within the genus. See, e.g., *Eli Lilly*.

Further, it is not sufficient to define it solely by its principal biological property, because an alleged conception having no more specificity than that is simply a wish to know the identity of any material with that biological property. Per the *Enzo* court's example, (*Enzo Biochem, Inc. v. Gen-Probe Inc*., 63 USPQ2d 1609 (CA FC 2002) at 1616) of a description of an anti-inflammatory steroid, i.e., a steroid (a generic structural term) couched "in terms of its function of lessening inflammation of tissues" which, the court stated, "fails to distinguish any steroid from others having the same activity or function" and the expression "an antibiotic penicillin" fails to distinguish a particular penicillin molecule from others possessing the same activity and which therefore, fails to satisfy the written description requirement. Applicant has not disclosed any relevant, identifying characteristics, such as structure or other physical and/or chemical properties, sufficient to show possession of the claimed genus. Mere idea or function is insufficient for written description; isolation and characterization at a minimum are required. A description of what a material does, rather than what it is, usually does not suffice. *Eli Lilly*, 119 F.3d at 1568, 43 USPQ2d at 1406.

Structural features that could distinguish one antigenic fragment from others are missing from the disclosure and the claims. No common structural attributes identify the members of the genus. The general knowledge and level of skill in the art do not supplement the omitted description, because specific, not general guidance is needed. Since the disclosure does not describe the common attributes or structural characteristics that identify members of the genus, and because the genus is highly variant, One of skill in the art would reasonable conclude that the disclosure of protein SEQ.ID.NO:2 does not provide a representative number of variants/fragments to describe the claimed genus. As such, generic variants/fragments that are unrelated via structure and function are highly variant and not conveyed by way of written

description by the specification at the time of filing. . The prior art states that that a single amino acid substitution in a common allele ablates binding of a monoclonal antibody (Lederman et al (Molecular Immunology 28:1171-1181, 1991,see entire document). Li et al (Proc. Natl. Acad. Sci. USA 77:3211-3214, 1980) disclose that dissociation of immunoreactivity from other activities when constructing analogs (see entire document).

As such the specification lacks written description for the highly variant genus and one skilled in the art would not recognize that applicants had possession of the genus of variants/fragments and the methods that uses said variants/fragments as instantly claimed. Further, the specification does not teach the function of the polypeptide SEQ.ID.NO:2 or variants/fragments thereof in screening for and/or diagnosis of or predicting a cardiovascular disorder.

Therefore, only “protein comprising the sequence SEQ.ID.NO: 2 "but not the full breadth of the claim meets the written description provision of 35 U.S.C. §112, first paragraph. Applicant is reminded that *Vas-Cath* makes clear that the written description provision of 35 U.S.C. §112 is severable from its enablement provision (see page 1115).

8. Claims 1-8 are rejected under 35 U.S.C. 112, first paragraph, because the specification, while being enabling for an isolated polypeptide comprising the amino acid sequence set forth as SEQ.ID.NO: 2, said polypeptide fused to a heterologous polypeptide and a method of detecting and /quantifying the polypeptide SEQ.ID.NO: 2 in a biological sample and does not reasonably provide enablement for variants/fragments of SEQ.ID.NO: 2 and a method of screening for and/or diagnosis of or predicting a cardiovascular disorder in a subject, comprising the steps of: i) detecting and/or quantifying the level of a polypeptide in a biological sample from said
subject, wherein the polypeptide is selected from:
a. a polypeptide comprising the amino acid sequence of SEQ ID NO:2
b. a variant, with at least 75% sequence identity, having one or more amino acid substitutions, deletions or insertions relative to the amino acid sequence of SEQ ID NO:2 and
c. a fragment of a polypeptide as defined in i) or ii) above which is a least seven amino acids long; and
ii) comparing said level to that of a control sample, wherein an increase in said level relative to that of the control is indicative of a cardiovascular disorder , wherein said cardiovascular

disorder is Coronary Artery Disease (CAD). The specification does not enable any person skilled in the art to which it pertains, or with which it is most nearly connected, to make and use the invention commensurate in scope with the claim.

The factors to be considered in determining whether undue experimentation is required are summarized In re Wands 858 F.2d 731, 8 USPQ2nd 1400 (Fed. Cir.1988). The court in Wands states: "Enablement is not precluded by the necessity for some experimentation such as routine screening. However, experimentation needed to practice the invention must not be undue experimentation. The key word is 'undue,' not 'experimentation.' " (Wands, 8 USPQ2d 1404). Clearly, enablement of a claimed invention cannot be predicated on the basis of quantity of experimentation required to make or use the invention. "Whether undue experimentation is needed is not a single, simple factual determination, but rather is a conclusion reached by weighing many factual considerations." (Wands, 8 USPQ2d 1404). The factors to be considered in determining whether undue experimentation is required include: (1) the breadth of the claims, (2) the nature of the invention, (3) the state of the prior art, (4) the predictability or unpredictability of the art, (5) the relative skill of those in the art, (6) the amount or direction or guidance presented, (7) the presence or absence of working examples, and (8) the quantity of experimentation necessary. Although the quantity of experimentation alone is not dispositive in a determination of whether the required experimentation is undue, this factor does play a central role. For example, a very limited quantity of experimentation may be undue in a fledgling art that is unpredictable where no guidance or working examples are provided in the specification and prior art, whereas the same amount of experimentation may not be undue when viewed in light of some guidance or a working example or the experimentation required is in a predictable established art. Conversely, a large quantity of experimentation would require a correspondingly greater quantum of guidance, predictability and skill in the art to overcome classification as undue experimentation. In Wands, the determination that undue experimentation was not required to make the claimed invention was based primarily on the nature of the art, and the probability that the required experimentation would result in successfully obtaining the claimed invention. (Wands, 8 USPQ2d 1406). Thus, a combination of factors which, when viewed together, would provide an artisan of ordinary skill in the art with an expectation of successfully obtaining the claimed invention with additional experimentation would preclude the classification of that experimentation as undue. A combination of Wands

factors, which provide a very low likelihood of successfully obtaining the claimed invention with additional experimentation, however, would render the additional experimentation undue.

1-2 .Breadth of the claims and the nature of the invention.

In regards to the polypeptide of the invention and the breadth of the claims the broadest interpretation that applies is fragments/fragments of fragments/ variants and fragments of variants. The nature of the invention is isolating and cloning SEQ.ID.NO:2 polypeptide from *the plasma of Coronary Artery Disease patients*, said polypeptide is named as cardiovascular disorder polypeptide (CPP)

3-4. The state of prior art and the level of predictability in the art.

In regards to variants/ fragment thereof, the prior art Houghten et al. (Vaccines, 1986, Edited by Fred Brown: Cold Spring Harbor Laboratory) states that changes/modifications (addition, substitution, deletion or inversion) of one or more amino acids in a polypeptide will alter antigenic determinants and therefore affect antibody production (p. 21) as well as antibody binding. Houghten et al also teach that "... combined effects of multiple changes in an antigenic determinant could result in a loss of [immunological] protection." and “A protein having multiple antigenic sites, multiple point mutations, or accumulated point mutations at key residues could create a new antigen that is precipitously or progressively unrecognizable by any of the antibodies..." (p. 24). Houghten et al. teach that point mutations at one key antigen residue could eliminate the ability of an antibody to recognize this altered antigen (p. 24). It is not always possible to make peptides that retain immunodominant regions and immunological activity if the regions have been altered. Similarly, the prior art states that that a single amino acid substitution in a common allele ablates binding of a monoclonal antibody (Lederman et al (Molecular Immunology 28:1171-1181, 1991,see entire document). Li et al (Proc. Natl. Acad. Sci. USA 77:3211-3214, 1980) disclose that dissociation of immunoreactivity from other activities when constructing analogs (see entire document).

5. The relative skill in the art.

The relative skill in the art as it relates to the method of the invention is characterized by that of a M.D. or Ph. D. level individual.

6-7. the amount of guidance present and the existence of working examples.

The applicant has not provided guidance for making and using variants/fragments of SEQ.ID.NO:2 for detecting or diagnosing or predicting all cardiovascular disorders including Coronary *Artery Disease CAD, i.e., atherosclerosis or hardening of the arteries, cardiovascular disease i.e., heart attack, stroke,* insults to the endothelium and smooth muscle cells (SMCs), ischemia, arterial thrombi, spasm, and, rarely, coronary emboli, congenital abnormalities or myocardial ischemia etc. The specification is totally silent in using either the full length polypeptide or variants/fragments of SEQ.ID.NO:2 in identifying any one of the disorders. Further, the specification does not disclose how to screen candidate compounds that modulate the CPP polypeptide SEQ.ID.NO:2

8. The quantity of experimentation necessary.

The amount of experimentation that is required is undue: while making recombinant polypeptide SEQ.ID.NO: 2 is routine, making and using variants/fragments of SEQ.ID.NO: 2 is not routine for identifying all cardiovascular disorders and requires more experimentation. Therefore, in view of the overly broad scope of the claims, the lack of guidance and working examples provided in the specification, and the high degree of unpredictability as evidenced by the prior art, undue experimentation would be necessary for a skilled artisan to make and use the entire scope of the claimed invention.

It must be noted that the issue in this case is the breath of the claims in light of the predictability of the art as determined by the number of working examples, the skill level of the artisan and the guidance presented in the instant specification and the prior art of record. The Applicants make and test position is inconsistent with the decisions of *In re Fisher*, 427 F.2d 833, 839, 166 USPQ 18, 24 (CCPA 1970) where it is stated that "... scope of claims must bear a reasonable correlation to scope of enablement provided by the specification to persons of ordinary skill in the art...". Without sufficient guidance, determination of having the desired biological characteristics is unpredictable and the experimentation left to those skilled in the art

is unnecessarily and improperly extensive and undue. See *In re Wands*, 858 F.2d at 737, 8 USPQZd at 1404 (Fed. Cir. 1988). Therefore, for the instant specification to be enabling, it needs to provide direction/guidance regarding an acceptable number of different variants/fragments of SEQ.ID.NO: 3850. Absent sufficient guidance/direction one of skill in the art would not be able to practice the claimed invention commensurate in scope with the claims. Thus, for all these reasons, the specification is not considered to be enabling for one skilled in the art to make and use the claimed invention as the amount of experimentation required is undue, due to the broad scope of the claims, the lack of guidance and insufficient working examples provided in the specification and the high degree of unpredictability as evidenced by the state of the prior art, attempting to test all the different types of disorders encompassed by the claimed invention would constitute undue experimentation. Therefore, applicants have not provided sufficient guidance to enable one of skill in the art to make and use the claimed invention in a manner that reasonably correlates with the scope of the claims, to be considered enabling.

Claim Rejections - 35 USC 102

9. The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that form the basis for the rejections under this section made in this Office action:

> A person shall be entitled to a patent unless –
>
> (b) the invention was patented or described in a printed publication in this or a foreign country or in public use or on sale in this country, more than one year prior to the date of application for patent in the United States.

10. Claims 7-8 are rejected under 35 U.S.C. 102(b) as being anticipated by Lal et al US6063767-A, DATE-ISSUED: May 16, 2000 or Bougueleret L et al WO 99 31236 A, 24 June 1999 (see IDS, 4/26/05, document AP).

Claims are drawn to an isolated polypeptide comprising the amino acid sequence selected from the group consisting of i) SEQ ID NOs: I-10; and ii) a variant of (i), with at least 75% sequence identity, having one or more amino acid substitutions, deletions or insertions, relative to the amino acid of (i), wherein said polypeptide is fused to a heterologous polypeptide sequence.

Lal et al, disclose the sequence o identified by SEQ ID NO: 3 is a phosphoethanolamine binding protein (PEBP) family member which presents over 100 % identity with SEQ ID NO: 2 of the present application (see below alignment). The art discloses a purified protein comprising said sequence (SEQ.ID.NO:3). The fusion of said protein to a heterologous histidine protein sequence is also taught by the art (column 19, lines 32-41).

-; Sequence 3, ; Patent No. 6063767

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;  GENERAL INFORMATION:
;    APPLICANT:  Lal, Preeti
;    APPLICANT:  Hillman, Jennifer
;    APPLICANT:  Corley, Neil
;    APPLICANT:  Shah, Purvi
;    TITLE OF INVENTION:  HUMAN PHOSPHOLIPID BINDING PROTEINS
;    NUMBER OF SEQUENCES:  6
;    CORRESPONDENCE ADDRESS:
;      ADDRESSEE:  Incyte Pharmaceuticals, Inc.
;      STREET:  3174 Porter Dr.
;      CITY:  Palo Alto
;      STATE:  CA
;      COUNTRY:  USA
;      ZIP:  94304
;    COMPUTER READABLE FORM:
;      MEDIUM TYPE:  Diskette
;      COMPUTER:  IBM Compatible
;      OPERATING SYSTEM:  DOS
;      SOFTWARE:  FastSEQ for Windows Version 2.0
;    CURRENT APPLICATION DATA:
;      APPLICATION NUMBER:  US/09/208,718
;      FILING DATE:
;      CLASSIFICATION:
;    PRIOR APPLICATION DATA:
;      APPLICATION NUMBER:  08/958,820
;      FILING DATE:
;    ATTORNEY/AGENT INFORMATION:
;      NAME:  Billings, Lucy J.
;      REGISTRATION NUMBER:  36,749
;      REFERENCE/DOCKET NUMBER:  PF-0379 US
;    TELECOMMUNICATION INFORMATION:
;      TELEPHONE:  650-855-0555
;      TELEFAX:  650-845-4166
;  INFORMATION FOR SEQ ID NO:  3:
;    SEQUENCE CHARACTERISTICS:
;      LENGTH:  227 amino acids
;      TYPE:  amino acid
;      STRANDEDNESS:  single
;      TOPOLOGY:  linear
;    IMMEDIATE SOURCE:
;      LIBRARY:  LUNGTUT12
;      CLONE:  3126479
US-09-208-718-3

  Query Match             100.0%;  Score 1116;  DB 2;  Length 227;
  Best Local Similarity   100.0%;  Pred. No. 1.7e-125;
  Matches  205;  Conservative    0;  Mismatches    0;  Indels    0;  Gaps    0;

Qy          1 DEDENSPCAHEALLDEDTLFCQGLEVFYPELGNIGCKVVPDCNNYRQKITSWMEPIVKFP 60
              ||||||||||||||||||||||||||||||||||||||||||||||||||||||||||||||
Db         23 DEDENSPCAHEALLDEDTLFCQGLEVFYPELGNIGCKVVPDCNNYRQKITSWMEPIVKFP 82
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Qy          61 GAVDGATYILVMVDPDAPSRAEPRQRFWRHWLVTDIKGADLKEGKIQGQELSAYQAPSPP 120
               ||||||||||||||||||||||||||||||||||||||||||||||||||||||||||||||
Db          83 GAVDGATYILVMVDPDAPSRAEPRQRFWRHWLVTDIKGADLKEGKIQGQELSAYQAPSPP 142

Qy         121 AHSGFHRYQFFVYLQEGKVISLLPKENKTRGSWKMDRFLNRFHLGEPEASTQFMTQNYQD 180
               ||||||||||||||||||||||||||||||||||||||||||||||||||||||||||||||
Db         143 AHSGFHRYQFFVYLQEGKVISLLPKENKTRGSWKMDRFLNRFHLGEPEASTQFMTQNYQD 202

Qy         181 SPTLQAPRGRASEPKHKNQAEIAAC 205
               |||||||||||||||||||||||||
Db         203 SPTLQAPRGRASEPKHKNQAEIAAC 227
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Or

Bougueleret L et al WO 99 31236 A, 24 June 1999, disclose the sequences of extended cDNAs encoding secreted proteins. In particular, the protein identified by SEQ ID NO: 225 is a phosphoethanolamine binding protein (PEBP) family member which presents over 99.5 % identity with SEQ ID NO: 2 of the present application (p. 93, lines 22-32; p. 136, Table VIII). The art discloses a purified protein comprising said sequence (claim 9) and a purified antibody specific for the protein having said sequence (claim 17). The fusion of said protein to a heterologous protein sequence is also taught by the art (p. 65, lines 1-10).

```
-SEP-1999  (first entry)
XX
DE   Extended human secreted protein sequence, SEQ ID NO. 225.
XX
KW   Secreted protein; human; cytokine; cellular proliferation; cell movement;
KW   cellular differentiation; immune system regulator; anti-inflammatory;
KW   haematopoiesis regulator; tissue growth regulator; tumour inhibitor;
KW   reproductive hormone regulator; chemotaxis; chemokinesis; gene therapy;
KW   genetic disease; BOND_PC; hypothetical protein MGC22776;
KW   cousin-of-RKIP 1 protein; hypothetical protein MGC22776 [Homo sapiens];
KW   PEBP4; CORK1; CORK-1; PRO4408; GWTM1933; MGC22776;
KW   phosphatidylethanolamine-binding protein 4;
KW   phosphatidylethanolamine-binding protein 4 [Homo sapiens].
XX
OS   Homo sapiens.
XX
PN   WO9931236-A2.
XX
PD   24-JUN-1999.
XX
PF   17-DEC-1998;   98WO-IB002122.
XX
PR   17-DEC-1997;   97US-0069957P.
PR   09-FEB-1998;   98US-0074121P.
PR   13-APR-1998;   98US-0081563P.
PR   10-AUG-1998;   98US-0096116P.
XX
PA   (GEST ) GENSET.
XX
PI   Bougueleret L,  Duclert A,  Dumas Milne Edwards J;
XX
  Query Match             98.9%;  Score 1104;  DB 2;  Length 227;
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```
  Best Local Similarity   99.0%;  Pred. No. 5e-115;
  Matches  203;  Conservative    1;  Mismatches    1;  Indels    0;  Gaps    0;

Qy          1 DEDENSPCAHEALLDEDTLFCQGLEVFYPELGNIGCKVVPDCNNYRQKITSWMEPIVKFP 60
              ||||||||||||||||||||||||||||||||||||||||||||||||||||||||||||
Db         23 DEDENSPCAHEALLDEDTLFCQGLEVFYPELGNIGCKVVPDCNNYRQKITSWMEPIVKFP 82

Qy         61 GAVDGATYILVMVDPDAPSRAEPRQRFWRHWLVTDIKGADLKEGKIQGQELSAYQAPSPP 120
              ||||||||||||||||||||||||||||||||||||||:||||||||||||||||||
Db         83 GAVDGATYILVMVDPDAPSRAEPRQRFWRHWLVTDIKGADLKKGKIQGQELSAYQAPSPP 142

Qy        121 AHSGFHRYQFFVYLQEGKVISLLPKENKTRGSWKMDRFLNRFHLGEPEASTQFMTQNYQD 180
              ||||||||||||||||||||||||||||||||||||||||||||||||||||||||||||
Db        143 AHSGFHRYQFFVYLQEGKVISLLPKENKTRGSWKMDRFLNRFHLGEPEASTQFMTQNYQD 202

Qy        181 SPTLQAPRGRASEPKHKNQAEIAAC 205
              |||||||| ||||||||||||||||
Db        203 SPTLQAPRERASEPKHKNQAEIAAC 227
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Conclusion

11. No claims are allowed.

12. Papers related to this application may be submitted to Group 1600, AU 1645 by facsimile transmission. Papers should be transmitted via the PTO Fax Center, which receives transmissions 24 hours a day and 7 days a week. The transmission of such papers by facsimile must conform to the notice published in the Official Gazette, 1096 OG 30, November 156, 1989. The Right Fax number is 571-273-8300.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PMR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PMR system, see http://pair-direct.uspto.gov. Should you have questions on access to the Private PMR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free).

Any inquiry concerning this communication or earlier communications from the Examiner should be directed to Padma Baskar Ph.D., whose telephone number is ((571) 272-0853. A message may be left on the Examiner's voice mail system. The Examiner can normally be reached on Monday to Friday from 6.30 a.m. to 4.00 p.m. except First Friday of each bi-week.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Robert Mondesi can be reached on 571) 272-0956.

Respectfully,

/Padma V Baskar/
Examiner, Art Unit 1645

/Robert B Mondesi/
Supervisory Patent Examiner, Art Unit 1645